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NEW COMBINATIONS IN *ELAPHANDRA* STROTHER (ECLIPTINAE-HELIANTHEAE-ASTERACEAE)

Harold Robinson

Department of Botany, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560 U.S.A.

ABSTRACT

Aspilia Thouars is formally reduced to synonymy, and the previous placement of *Gymnolomia* H.B.K. in synonymy under *Aspilia* is corrected. The type of *Aspilia*, *A. thouarsii* DC., is transferred to *Wedelia*, and the lectotype of *Gymnolomia*, *G. tenella* H.B.K., is transferred to *Eleutheranthera* Poit. *ex* Bosc. Nine species from northern South America are transferred to *Elaphandra* Strother from *Aspilia*, and **Elaphandra paucipunctata** is described as new from Ecuador.

KEY WORDS: Asteraceae, Heliantheae, *Elaphandra, Aspilia, Wedelia, Eleutheranthera, Gymnolomia*

The recent study of various members of the *Wedelia* relationship of the Heliantheae (Strother 1991) is the culmination of a series of studies of the limits of *Wedelia* Jacq. and *Zexmenia* La Llave (Becker 1975a, 1975b, 1979; Rindos 1980; McVaugh 1972, 1984; Robinson 1978, 1984a, 1984b; Strother 1987, 1989a, b; Villaseñor & Strother 1989). One aspect of the Strother study, as well as the previous McVaugh (1972, 1984) studies, is the dismissal of the traditional concept of *Aspilia* Thouars, which has contained *Wedelia*-like species with neutral rays. Most of the neutral rayed species within the Strother study area have been transferred by McVaugh (1972) and Strother (1991) directly into *Wedelia*. However, one newly described Panamanian species is placed by Strother in his new genus *Elaphandra*, and some additional South American species were mentioned and annotated as possible members of the new genus. Unfortunately, Strother, like Rindos (1980), chose not to publish a number of the combinations that were the inevitable result of his study.

Elaphandra Strother was rather well defined within the limited geography of the Strother (1991) paper by its erect to scrambling habit, lateral leaf

veins reaching near the leaf tip, lack of resinous glandular punctations on the leaves, herbaceous outer involucral bracts, neutral rays, black anther appendages, and narrow rather stipitate based achene bases with no elaiosomes and small carpopodia. The base of the achene lacking an elaiosome and lacking a large carpopodium is a primary distinction from the Strother concept of *Wedelia*. There are also three tendencies found in some but not all species of *Wedelia* that are not known in *Elaphandra*: fertile rays such as those of typical *Wedelia* yellow anther appendages, and resinous glandular punctations on the leaves. Some emphasis is given by Strother to the unique nonrostrate or scarcely rostrate, epappose or shortly bicornute apex of the achene in the type of the genus *Elaphandra*, *Elaphandra bicornis* Strother, but Strother suggests probable close relationship to the Colombian species named by Blake as *Aspilia quinquenervis* in which the rostrum and corona are more highly developed. The lack of tuberculae on the achene is also used by Strother as a key character distinguishing *Elaphandra* from *Eleutheranthera* Poit. *ex* Bosc. and *Thelechitonia* Cuatr. (= *Complaya* Strother).

The Strother separation of *Elaphandra* from *Wedelia* is accepted here. The separation from *Aspilia* is also accepted on the basis of the original description of that genus (Petit-Thouars 1806) and the description and illustration of the type *A. thouarsii* DC. by Humbert (1963), which indicate that *Aspilia* is a synonym of *Wedelia*. The following combination formalizes the reduction of *Aspilia* to synonymy under *Wedelia*. The eventual dispositions of many species presently placed in *Aspilia* still need to be resolved.

Wedelia thouarsii (A.DC.) H. Robinson, *comb. nov.* BASIONYM: *Aspilia thouarsii* A.DC., *Prodr.* 5:561. 1836.

The species of *Elaphandra* belong to neither *Wedelia* nor *Aspilia* among the pre-existing genera, but the problem of distinguishing the Strother concept of *Elaphandra* from *Eleutheranthera* Poit. *ex* Bosc. and *Gymnolomia* H.B.K. is not as easily solved. One of the key differences from *Eleutheranthera* used by Strother (1991) is the lack of tuberculae on the achenes of the former, but a number of the potential members of *Elaphandra* from South America have tuberculae. A second difference used by Strother, the lack of rays in *Eleutheranthera*, fails if the Colombian *Aspilia tenella* (H.B.K.) S.F. Blake is transferred to that genus, as suggested by Strother in his annotations of specimens. Nevertheless, four characteristics have been noted in this study that distinguish the expanded concept of *Elaphandra* from the expanded concept of *Eleutheranthera*. First, as noted by Strother, *Elaphandra* lacks resinous glandular punctations on the leaves, but they are present in *Eleutheranthera*. Second, the disk corollas of *Elaphandra* always have distinct fiber sheaths along the veins of the throat, a feature lacking in *Eleutheranthera*. Third, the anther

appendages of *Elaphandra* are of ordinary oblong-ovate shape with no glands. The appendages of *Eleutheranthera* are very blunt, wider than long, and have glands abaxially. Fourth, the style branches of *Elaphandra* are blunter and more densely papillose distally. The style tips of *Eleutheranthera* are attenuate with sparse spreading papillae.

A secondary effect of the expanded concept of *Eleutheranthera* is the resolution of the genus *Gymnolomia*. The latter genus was originally credited with four species. Three of the species were transferred to *Aspilia* by Blake (1924), and two proved to be *Aspilia tenella*, which Blake selected as the lectotype of *Gymnolomia*. The fourth species, *G. rudbeckioides* H.B.K., was transferred by Blake to *Hymenostephium* Benth. and was transferred later by Robinson (1977) to *Viguiera* H.B.K. The lectotypification of *Gymnolomia* by *G. rudbeckioides*, as was belatedly suggested by D'Arcy (1975, p. 1156-1157), was contrary to D'Arcy's own suggestion that *Gymnolomia* might be the correct name for much of the New World material placed in the genus *Aspilia*. Thus, *Gymnolomia*, which has been previously placed in the synonymy of *Aspilia*, proves to be a synonym of *Eleutheranthera*.

The following summary of the resolution of *Eleutheranthera* and *Gymnolomia* is possible.

Eleutheranthera Poit. *ex* Bosc., *Nouv. Dict. Hist. Nat.*, ed. 1. 7:498. 1803. LECTOTYPE: *Eleutheranthera ovata* Poit. *ex* Steud., *nom. nud.* (= *Eleutheranthera ruderalis* [Swartz] Schultz-Bip.).

Ogiera Cass., Bull. Soc. Philom. 1818:32. 1818. TYPE: *Ogiera triplinervis* Cass. (= *Eleutheranthera ruderalis* [Swartz] Schultz-Bip.).

Gymnolomia H.B.K., *Nov. Gen. Sp.*, ed. fol. 4:170. 1818. LECTOTYPE: *Gymnolomia tenella* H.B.K. (Blake 1924).

Fingalia Schrank, *Syll. Ratisb.* 1:87. 1824. TYPE: *Fingalia hexagona* Schrank.

Gymnopsis A. DC., *Prodr.* 5:561. 1836. *nom. superfl.* for *Gymnolomia.*

Kegelia Schultz-Bip., Linnaea 21:245. 1848. TYPE: *Kegelia ruderalis* (Swartz) Schultz-Bip.

Eleutheranthera tenella (H.B.K.) H. Robinson, *comb. nov.* BASIONYM: *Gymnolomia tenella* H.B.K., *Nov. Gen. Sp.*, ed. fol. 4:171. 1818.

Gymnolomia hondensis H.B.K., *Nov. Gen. Sp.*, ed. fol. 4:171. 1818.

Aspilia tenella (H.B.K.) S.F. Blake, Contr. U.S. Natl. Herb. 22(8): 620. 1924.

The expanded concept of *Elaphandra* consists at this time, of species lacking resinous glandular punctations on their leaves. having lateral leaf veins reaching the distal fourth of the leaf, bearing neutral rays or no rays, having fiber sheaths on the veins of the disk corolla throat, having black, ovate anther appendages without glands, having style branches densely papillose to the tip, and having achenes narrowed at the base without obvious elaiosomes or carpopodia. The bases of the achenes are usually not so elongated as in the type of the genus. As such, the genus is enlarged from the single species of Strother (1991) to include four additional groups of species previously placed in the genus *Aspilia*. One group is of apparent immediate relatives of the type, such as *A. quinquenervis* S.F. Blake that was mentioned by Strother (1991). A second group includes species notable for black spots on their leaves or black lines in their involucral bracts. A member of the group, *A. verbesinoides* (A.DC.) S.F. Blake, was annotated by Strother as a possible *Elaphandra*. The third group consists of an Ecuadorian species that is notable for a lack of rays. A fourth group consists of a recently described Venezuelan species with comparatively small heads and pointed pales. Also, in an effort to provide for all names known to be needed for the Flora of Ecuador treatment, the opportunity is taken to describe an additional species from that country which belongs to the second group.

Elaphandra Strother, Syst. Bot. Monogr. 33:17. 1991. TYPE: *Elaphandra bicornis* Strother, eastern Panamá.

Group I.

Elaphandra macrolepis (S.F. Blake) H. Robinson, *comb. nov.* BASIONYM: *Aspilia macrolepis* S.F. Blake, Contr. U.S. Natl. Herb. 22:617. 1924. This seems closest to the type of the species being transferred, but the outer involucral bracts are longer and narrower, and the corona of the achene is more developed. Colombia.

Elaphandra quinquenervis (S.F. Blake) H. Robinson, *comb. nov.* BASIONYM: *Aspilia quinquenervis* S.F. Blake, J. Wash. Acad. Sci. 18:26. 1928. The species is variable in the density and inclination of hairs on the lower leaf surface, and the Ecuadorian specimens have generally broader and shorter outer involucral bracts. Colombia and Ecuador.

Group II.

Elaphandra archeri (H. Robinson & Brettell) H. Robinson, *comb. nov.* BASIONYM: *Aspilia archeri* H. Robinson & Brettell, Phytologia 32:419. 1975. Colombia.

Elaphandra eggersii (Hieron.) H. Robinson, *comb. nov.* BASIONYM: *Aspilia eggersii* Hieron., Bot. Jahrb. Syst. 28:606. 1901. A related species is described below based on material once identified as this species. Ecuador.

Elaphandra lucidula (S.F. Blake) H. Robinson, *comb. nov.* BASIONYM: *Aspilia lucidula* Proc. Biol. Soc. Wash. 36:52. 1923.

Aspilia steinbachii H. Robinson & Brettell, Phytologia 32:420. 1975.
Bolivia.

Elaphandra ulei (Hieron.) H. Robinson, *comb. nov.* BASIONYM: *Aspilia ulei* Hieron., Verh. Bot. Ver. Brandenb. 48:205. 1906. (1907). Western Brazil.

Elaphandra verbesinoides (A. DC.) H. Robinson, *comb. nov.* BASIONYM: *Gymnopsis verbesinoides* A. DC., *Prodr.* 5:561. 1836.

Aspilia nigropunctata S.F. Blake, Proc. Biol. Soc. Wash. 24:119. 1911.

Aspilia verbesinoides (A. DC.) S.F. Blake, Proc. Biol. Soc. Wash. 34:120. 1921.
Trinadad, Tobago, Venezuela.

Group III.

Elaphandra pastazensis H. Robinson, *comb. nov.* BASIONYM: *Aspilia pastazensis* H. Robinson, Phytologia 55:417. 1984. Ecuador.

Group IV.

Elaphandra falconiensis (Badillo) H. Robinson, *comb. nov.* BASIONYM: *Aspilia falconiensis* Badillo, Ernstia 9:13. 1983. Venezuela.

New species of Group II.

Elaphandra paucipunctata H. Robinson, *sp. nov.* HOLOTYPE: ECUADOR. El Oro Prov.: 5 km W of Piñas on the road to Saracay, elev. 3600 ft., low spreading shrub 0.5 m tall, ray florets yellow, disk florets black but the lobes yellow, 4 Feb. 1979, *King & Almeda 7969* (US). PARATYPE: ECUADOR. El Oro Prov.: Road from Piñas to Sta. Rosa, km 16, elev. 620 m, creeping vine in shrubs, flowers yellow, 7 Oct. 1979, *Dodson, Gentry, & Shupp 8943* (US).

Plantae volubiles vel patentiter frutescentes ad 0.5 m altae; caules erecte vel leniter retrorse hirsutuli. Folia opposita, petiolis 6-12 mm longis; laminae ovatae plerumque 5-10 cm longae et 2.5-5.5 cm latae base breviter acutae margine serrulatae apice breviter acuminatae supra scabridulae subtus antrorse pilosae et pauce nigropunctatae fere ad basem distincte trinervatae. Inflorescentiae unicapitatae longe pedunculatae, pedunculis saepe 5-12 cm longis leniter retrorse hirsutulis. Capitula ca. 1 cm alta sine radii 1.0-1.5 cm lata; squamae involucri exteriores herbaceae oblongo-ovatae 9-10 mm longae et ca. 5 mm latae apice breviter acutae extus dense pilosulae, bracteae interiores sensim membranaceae obovatae ca. 10 mm longae ad 6.5 mm latae pauce nigropunctatae apice late rotundatae extus dense scabridulae; paleae scariosae stramineae apicae breviter acutae suberosae extus glabrae. Flores radii ca. 8; corolla flavae glabrae, tubis ca. 2 mm longis, limbis oblongis ca. 17 mm longis et 6 mm latis apice distincte bilobatis. Flores disci ca. 35; corollae nigrescentes inferne et in lobis flavescentiores extus glabrae, tubis 1.5-2.0 mm longis faucibis ca. 3 mm longis, lobis ca. 1 mm longis in marginis interioribus dense longe papillosis; thecae et appendices antherarum nigrescentes, thecae ca. 2 mm longae. Achaenia immatura.

The new species is related to the more widespread Ecuadorian *Elaphandra eggersii* with the same darkened corollas of the disk florets. The species differs by the much shorter tips of the leaves, the sparse occurrence of black spots on the undersurface of the leaves, and the much shorter outer involucral bracts. The black spotting of the leaves is obvious compared to the unspotted condition seen in *E. eggersii*, but is still much less obvious than that seen in species like *E. archeri*, *E. verbesinoides*, or *E. lucidula*.

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